

Base from U.S. Geological Survey topographic quadrangle maps Skagway A-2, B-2, 1:63,360, 1954, minor revisions 1963. Topography by photogrammetric methods from July 5, 1948 aerial photographs; tidal shore position interpreted as approximately mean high water that date; river channels also that date. Selected hydrographic data from U.S. Coast and Geodetic Survey chart 8303, 1945, minor revisions 1966.

Surficial geology mapped in 1965 and 1968. Bedrock geology mapped in 1950, 1951, and 1953.

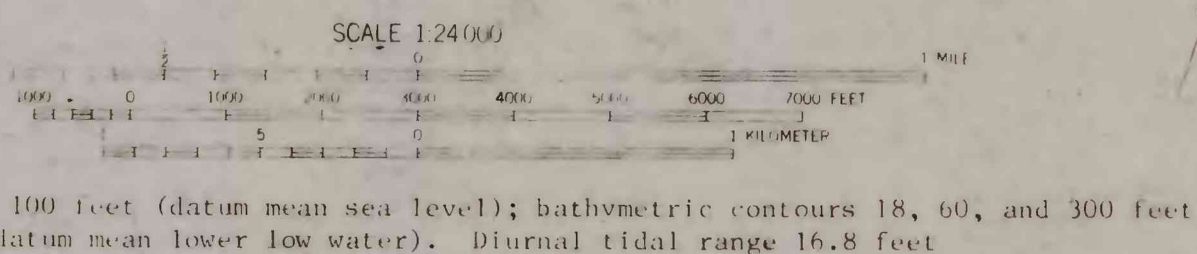


Figure 3.--RECONNAISSANCE GEOLOGIC MAP OF THE HAINE AREA, ALASKA

Surficial geology by Richard W. Lemke and Lynn A. Yehle

Bedrock geology by Eugene C. Robertson

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EXPLANATION

Surficial deposits

Qf

Manmade fill

Intermixed gravel, sand, cobbles, and boulders; includes rubble, used as riprap, and some refuse. Small areas, including road fill, not shown

Qc

Chilkat River flood-plain and delta deposits

Chiefly fine sand and silt; some clay-size material and minor gravel. Mapped down to approximate mean lower low water level; deposit may be entirely covered during river flood stages and high tides

Qb

Modern beach deposits

Chiefly gravel, sand, cobbles, and boulders; includes small outcrops of bedrock and glaciomarine drift or fine-grained marine deposits too small to map. Mapped down to approximate mean lower low water level; deposit may be entirely covered during storms at high tide

Qc

Colluvial deposits

Gravel, cobbles, and sand, or rubble in a sandy to silty matrix, which has moved or is moving down slope under the influence of gravity. High percent of organic material locally. Includes talus, landslide deposits, and products of downslope mixing of drift, glaciomarine, fine-grained marine, and elevated beach deposits. Loose, generally unsorted; some crude bedding by gravity sorting. Generally overlies bedrock at shallow depth

Qa

Alluvial fan deposits

Mostly gravel, cobbles, and boulders; local sand and silt. Generally poorly sorted and bedded. May merge with or thinly cover elevated beach, glaciomarine drift, or fine-grained marine deposits up to an altitude of at least 300 feet

Qeb

Elevated shore and delta deposits

Mostly gravel, sand, and cobbles. Moderately to well sorted and stratified. Includes elevated shore and elevated delta deposits indicated to be more than 5 feet thick. Thinner accumulations, or deposits too small to map, irregularly veneer other deposits on gentle slopes up to an altitude of at least 300 feet; geologic relationships are commonly obscured by depositional complexities or by later downslope gravity mixing (colluviation) with other deposits

Qem Qemy

Elevated fine-grained marine deposits

Mostly silt and clay-size material with variable sand and gravel content; slightly coarser near headlands and raised beaches. Commonly fossiliferous. Includes elevated shore and undifferentiated glaciomarine drift deposits too small to map separately. Qem, older deposits; Qemy, younger deposits (subject to occasional flooding)

Qo

Outwash and ice-contact deposits

Sandy gravel with varying amounts of cobbles and silt. Moderately well sorted; well stratified in part. Grades in places into or merges with a thin veneer of elevated shore and delta deposits (Qeb) on gentle slopes up to an altitude of at least 300 feet

Qd

Drift deposits, undifferentiated

Consist of silty gravel and sand with variable clay and cobble content. Mostly till and other diamictites; some fluvio-glacial deposits. Generally poorly sorted, unstratified, and compact. Include small alluvial fan deposits, colluvium, and elevated fine-grained marine and glaciomarine deposits too small to map separately. Mantle of elevated shore deposits irregularly veneers drift on gentle slopes up to an altitude of at least 300 feet

Bedrock

Kt Ked

Igneous rocks

Kt, quartz diorite (tonalite); massive, medium-grained rock consisting of plagioclase, quartz, orthoclase, hornblende, biotite, sphene, and a few accessory minerals

Ked, diorite; light- to medium-gray, coarse-grained; consists chiefly of plagioclase, hornblende, and epidote

Mzm Mzp

Metamorphic rocks

Mzm, metabasalt; dark-green, fine-grained metamorphosed volcanic rock, consisting chiefly of hornblende and feldspar

Mzp, pyroxenite; consists chiefly of augite

Note: Bedrock and surficial deposits Qaf, Qc, Qd, Qeb, Qem, and Qo are covered in places by as much as several feet of organic material or organic-rich silt. Unconsolidated deposits, as mapped, are thought to be at least 5 feet thick. Best delineation of surficial deposits is close to Tanani Pt, Haines, Port-Chilkoot, Haines aircraft landing strip, and roads; delineation elsewhere, in remote areas, made largely by airphoto interpretation

Contact

Dashed where inferred or gradational

Seaward limit of mapping; geologic units are shown on map down to approximately mean lower low water

X

Sand and gravel pit or rubble pit

Docks and piers

QUATERNARY

CRETACEOUS

MESOZOIC